DRAWING INDEX

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GENERAL NOTES:

1. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL POSSIBLE CONDITIONS. (DO NOT SCALE FOR EQUIPMENT, DEVICE OR MATERIAL LOCATION). IT IS INTENDED THAT A COMPLETE ACMV SYSTEM BE PROVIDED WITH ALL NECESSARY EQUIPMENT, APPURTENANCES, AND CONTROLS, COMPLETELY COORDINATED WITH ALL DISCIPLINES. DOCUMENTS STRICTLY CONFORM WITH ALL PARAMETERS GIVEN IN THESE DOCUMENTS. ANY ITEMS AND LABOR REQUIRED FOR A COMPLETE ACMV SYSTEM IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS, AND THESE CONTRACT DOCUMENTS SHALL BE FURNISHED WITHOUT INCURRING ANY ADDITIONAL COST TO THE CONTRACT. CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND THE DESIGN OF OTHER TRADES BEFORE PREPARING SHEET METAL AND PIPING SHOP DRAWINGS. EACH TRADE SHALL PREPARE ITS OWN FABRICATION AND INSTALLATION DRAWINGS FOR COORDINATION WITH ALL OTHER DISCIPLINES.
2. PROVIDE ACCESS TO EQUIPMENT, VALVES AND OTHER DEVICES.
3. ALL OPENING PIPES SHALL NOT, IN ANYWAY, PENETRATE STRUCTURAL RIB ON BEAMS UNLESS OTHERWISE AUTHORIZED.
4. ALL MOTOR CONTROLLERS FOR MECHANICAL MOTORS SHALL BE SUPPLIED BY MECHANICAL CONTRACTOR.
5. EMERGENCY STOP OR DISCONNECT SWITCHES SHALL BE INSTALLED ADJACENT TO EACH MOTOR.
6. ALL ANTI-VIBRATION MOUNTS FOR EQUIPMENT AND PIPE WORK SHALL BE OF SEISMIC SPRING TYPE UNLESS OTHERWISE SHOWN ON DRAWINGS.
7. FOR PIPES SLEEVES AND DUCTS THROUGH FIRE BARRIER, THE GAP BETWEEN THE PIPES AND ITS SLEEVES, AND THE GAP BETWEEN THE DUCTS AND FIRE BARRIERS MUST BE FIRMLY SEALED WITH FIRESTOP MATERIALS HAVING A PERIOD OF FIRE RESISTANCE EQUAL TO THE FIRE BARRIERS. DETAILS OF DUCTS AND PIPES THROUGH WALL AND FLOOR SHALL COMPLY WITH U.L. STANDARD AND REQUIREMENTS.
8. IN THE ABSENCE OF ANY OTHER REQUIREMENT NOT FOUND IN THE PSME CODE, THE MATERIALS, CONSTRUCTION AND INSTALLATION OF THE DUCTWORKS SHALL COMPLY WITH THE REQUIREMENT OF SMACNA OR ASHRAE STANDARDS.
9. ALL WIRING IN THE CEILING PLENUM SHALL BE PLENUM RATED CABLE PER NFPA-70 OR BE INSTALLED IN METAL CONDUIT.
10. FOR ALL EQUIPMENT, PIPING AND APPURTENANCES EXPOSED TO AN OUTDOOR ENVIRONMENT, SPECIAL CARE SHALL BE TAKEN TO ENSURE THAT THE UNIT CASING, MOTORS, VALVES AND OTHER APPURTENANCES ARE PROPERLY PROTECTED AS SPECIFIED. PROVIDE EITHER AN EPOXY COATING, STAINLESS STEEL MATERIALS OR OTHER SIMILAR WEATHERPROOFING PROTECTION.
11. THE CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL EQUIPMENT INDICATED ON DRAWINGS TO ANY EQUIPMENT FURNISHED BY OWNER. FINAL CONNECTION SHALL INCLUDE, BUT NOT BE LIMITED TO ANY ADAPTERS, NIPPLES, SHUTOFF VALVES, AND PRESSURE REGULATING VALVES REQUIRED.
12. AFTER SUBMITTAL APPROVALS AND PRIOR TO ORDERING OF ANY EQUIPMENT OR ACCESSORIES, OR BEFORE FABRICATION AND/OR ASSEMBLY OF PIPING, AND ANY DEVICES/COMPONENTS, THE CONTRACTOR SHALL ENSURE THAT EVERYTHING HAS BEEN VERIFIED AT SITE AND COORDINATED WITH ALL THE OTHER DISCIPLINES AS TO CONSTRUCTIBILITY AND MAINTAINABILITY OF THE EQUIPMENT AND UTILITIES. IF FOR ANY REASON, CONFLICT ARISE DUE TO CONTRACTOR'S FAILURE TO FOLLOW THE ABOVE OR HIS LACK OF DUE DILIGENCE, ALL WORKS AS NECESSITATED SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT ADDITIONAL VARIATION ORDER.
13. ALL SUSPENDED AND FLOOR MOUNTED PIPE AND EQUIPMENT SHALL BE PROVIDED WITH PROPER ISOLATORS AS RECOMMENDED BY ASHRAE (TABLE 42 AND CHAPTER 47 2003 ASHRAE HANDBOOK).
14. CONTRACTOR IS REQUIRED TO RE-CALCULATE PUMP TOTAL DYNAMIC HEAD BASED ON APPROVED SHOP DRAWINGS AND ACTUAL SELECTED EQUIPMENTS TO BE SUBMITTED FOR ENGINEERS APPROVAL PRIOR TO PROCUREMENT

ABBREVIATIONS

AC	AIR CONDITIONING	CPF	CHEMICAL POT FEEDER
AI	ANALOG INPUT	CD	CONDENSATE DRAIN
AO	ANALOG OUTPUT	IV	ISOLATION VALVE
AP	ACCESS PANEL	KW	KILOWATT
AV	AIR VENT	L	LITERS
BMS	BUILDING MANAGEMENT SYSTEM	l/s	LITERS PER SECOND
BOP	BOTTOM OF PIPE	m^3	CUBIC METER
°C	DEGREE CELCIUS	mm	MILLIMETER
CAP	CAPACITY	MAX	MAXIMUM
CDP	CONDENSATE DRAIN PIPE	MCC	MECHANICAL CONTROL CENTER
PCWS/R	PRIMARY CHILLED WATER SUPPLY/RETURN	MOV	MOTORIZED ON/OFF VALVE
SCWS/R	SECONDARY CHILLED WATER SUPPLY/RETURN	NC	NORMALLY CLOSED
PCWP	PRIMARY CHILLED WATER PUMPS	NO	NORMALLY OPEN
SCWP	SECONDARY CHILLED WATER PUMP	P	PHASE
CS/CR	CONDENSER WATER SUPPLY/RETURN	PD	PRESSURE DROP
CP	CONDENSER WATER PUMPS	PG	PRESSURE GAUGE
CT	COOLING TOWER	PS	PRESSURE SENSOR/TRANSMITTER
CV	CHECK VALVE	SFU	SAND FILTRATION UNIT
DB	DRY BULB	DPT	DEIFFERENTIAL PRESSURE TRANSMITTER
dB	DECIBEL	S.S	STAINLESS STEEL
DDC	DIRECT DIGITAL CONROLLER	STR	STRAINER
ET	EXPANSION TANK	T/A	TO ABOVE
F/A	FROM ABOVE	T/B	TO BELOW
F/B	FROM BELOW	TEMP.	TEMPERATURE
FC	FLEXIBLE CONNECTOR (PIPE & DUCT)	TP	TEST PORT
FM	FLOW TRANSMITTER (CHILLER)	TR	TONS OF REFRIGERATION
GV	GATE VALVE	V	VOLTS
H/L	HIGH LEVEL	VFD	VARIABLE FREQUENCY DRIVE
Hz	HERTZ	WB	WET BULB
C/W	COMPLETE WITH	CH	WATER COOLED CHILLERS
VSD	VARIABLE SPEED DRIVE	ø	DIAMETER
BTU	BRITISH THERMAL UNIT	@	AT
GFE	GOVERNMENT FURNISH EQUIPMENT		

LEGEND & SYMBOLS

SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
	WATER COOLED CHILLER		AIR VENT W/ STOP COCK
			DRAIN VALVE C/W PLUG
			NON- RETURN VALVE
	COOLING TOWER		THERMOMETER
			FLEXIBLE PIPE CONNECTOR
ET	EXPANSION TANK		FLOW SWITCH
		DP	DIFFERENTIAL PRESSURE GAGE
	PUMPS	AAV	AUTOMATIC AIR VENT
	MODULATING CONTROL VALVE	DC	DRAIN CAP
	CLOSE-COUPLED COMMISSIONING SET		CHECK VALVE
	GATE VALVE	CS/R	CONDENSER WATER SUPPLY/RETURN
	BALANCING VALVE	PCWS/R	PRIMARY CHILLED WATER SUPPLY/SUPPLY
Ts	TEMPERATURE SENSOR/TRANSMITTER	SCWS/R	SECONDARY CHILLED WATER SUPPLY/RETURN
TP	UNIVERSAL TEST PLUG		FLOW
M	MOTORIZED VALVE		CONDENSATE DRAIN PIPE
M	TWO-PORT MOTORIZED MODULATING CONTROL VALVE		SOLENOID VALVE
	PRESSURE GUAGE		BALL VALVE
	BUTTERFLY VALVE	M	WATER METER
	RELIEF VALVE		UNION
	FLOW METER		GLOBE VALVE
	POC (POINT OF CONNECTION)	TP	TEST PLUG
	SUCTION DIFFUSER		

FOR TENDER

UNITED STATES EMBASSY
MANILA, PHILIPPINES

FACILITIES MANAGEMENT

SENSITIVE BUT UNCLASSIFIED

Engineer
MEINHARDT
25th Floor Chatham House 116 Valero cor.
V.A. Rufino St. Salcedo Village, Makati City
Tels. (632) 887-1391 E-mail mpi@meinhardt.com.ph
Fax (632) 887-1172

OSCAR V. RELUCIO
PROFESSIONAL MECHANICAL ENGINEER

PRC Reg. No: 2886 PTR No: 3178285
Date: JANUARY 04, 2012 Place: MAKATI CITY

APPROVED BY :

DISCIPLINE	INITIAL	SIGNATURE	DATE
SFM	PLS		
DFM	RLW		
CIVIL/STRL			
ELECT'L			
MECH'L			

RevNo	Revision note	Date	Sign.

Project Title

US EMBASSY MAIN CHILLER PLANT ADDITION

Location

ROXAS BOULEVARD, PHILIPPINES

Release For Construction:

FMM	FMS

SHEET CONTENT

MECHANICAL SERVICES
DRAWING INDEX, VICINITY MAP,SITE DEV'T PLAN, GENERAL NOTES, ABBREVIATIONS AND LEGEND & SYMBOLS

Phase

☐ CONCEPT ☐ 35% ☐ 60% ☐ 90% ■ 100% ☐ FINAL

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